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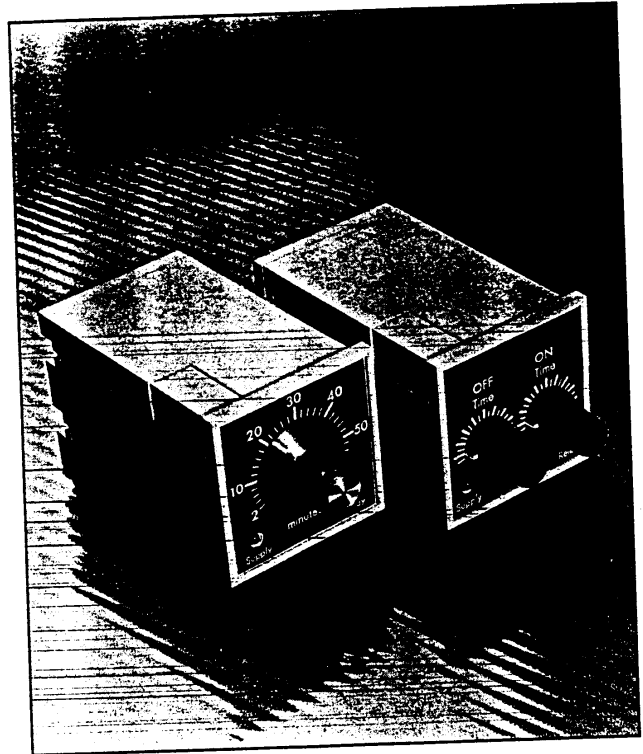
CONTROL DIVISION

*A Vision
 of the Future*

Timers

F SERIES TIMER

The F series timers are designed using the latest cmos technology. This provides high immunity from industrial noise and minimises power consumption. The wide variety of functions, time ranges, base configurations and supply voltage probably makes this the most flexible timer on the market.



FEATURES

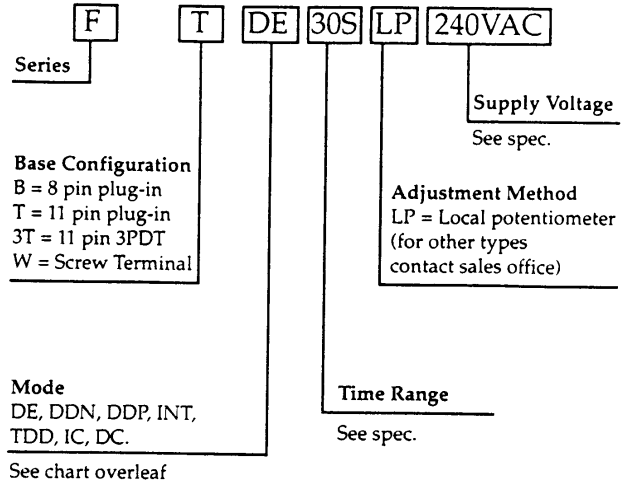
- * 7 modes of operation
- * 9 different supply options
- * Timing from 100msec to 60 hours
- * Plug - in and panel mounted options
- * High noise immunity
- * High load capacity - upto 7Amps at 240VAC

Operating Modes	Delay on Energise	Delay on De-energise	True Delay on De-energise	Interval	Immediate Cycle	Delayed Cycle
Supply						
Output						
Input					Two independent times can be set	
Abbreviations	DE	DDN, DDP	TDD	INT	IC	DC



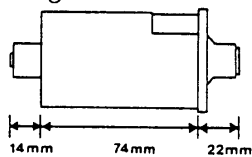
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Supply Voltage	12, 24, 48, 100VDC, 12, 24, 50, 110, 240 VAC (12VAC/DC not available on TDD)
Power Consumption	4 VA or 2W max. (20 VA for TDD) (4W for IC/DC)
Supply Limit	-15% to +10% of supply voltage
Timing Range	1, 2, 5, 10, 30, 60 sec. 2, 5, 10, 30, 60 min. (30 min. max. for TDD and DDN/DDP)
Scale Range	5% to 100% of f.s.d.
Scale Accuracy	± 5% of f.s.d.
Repeat Accuracy	1% max. of scale value or 20ms whichever is greater
Operating Temperature	-10°C to +60°C
Reset Time	100ms (200ms for IC/DC)
Output	DPDT relay rated 10A at 240VAC or 30VDC resistive (5A for TDD and 3TDE)
Electrical Life	500,000 operations at rated load (200,000 for TDD)
Mechanical Life	50 million operations (10 million for TDD)
Isolation	1500VAC 50Hz for 1 minute
Operate Time (TDD only)	Min. period = $(T_m + 50)$ msec. where T_m = f.s.d. in secs.
Energisation Pulse (DDN/DDP only)	20ms min.

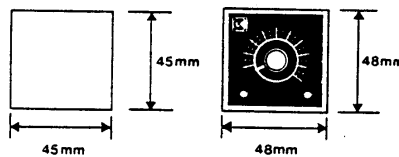


Dimensions

Plug in version

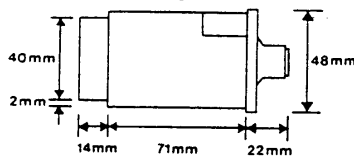


Cut-out dimensions

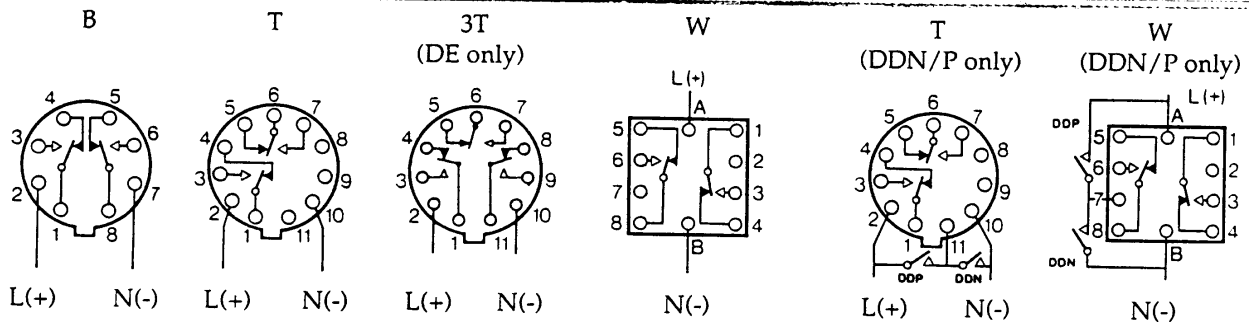


All dimensions in mm.

Panel mounting version



Connection data



- Note: 1. Screw terminal sockets suitable for 8 and 11 pin plug-in version are available.
 Part numbers AZ 68 and AZ 611 for DIN rail, and AZ 58 and AZ 511 for Panel mounting respectively.
 2. Output rating is reduced to 7Amps when applied through sockets.
 3. Output and status Led's not available on 12VAC/DC versions.

For further information please contact our sales office at

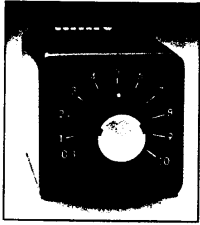


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TIM/FBT/4/90

ANALOGUE TIMERS

2B OCTAL PLUG-IN TIMERS



The B series range are octal pin, plug-in Timers designed for use in a wide range of industrial applications from printing and garment manufacture to lift control, generators and pumping systems.

Their key features are:

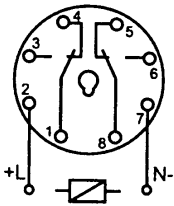
- 4 Supply options
- 3 Modes of Operation
- Up to 10 Amp rated relay outputs
- CE EMC and Low Voltage compatible

Specification

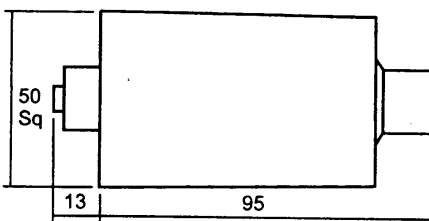
Supply voltage: 12Vdc, 24Vdc, 110Vac, 230Vac @ 50/60 Hz
 Min. Supply time: (Tm+50)msecs where Tm=max scale time(TDD only)
 Power drain: 2W or 4VA (20VA for TDD)
 Supply limits: +/- 15% of supply voltage
 Timing Modes: DE, TDD or DC. See chart for explanation
 Timing Ranges: see chart
 Scale range: 5% to 100% of max time setting
 Scale accuracy: +/- 5% of timing range
 Repeat accuracy: 1% of scale value (20msec min.)
 Reset time: 100msec (200msec for DC)
 Output Config: 2 x DPCO relay rated 10A/240Vac or 30Vdc (5A TDD)
 Electrical life: 5 x 10⁵ ops at rated load (2x10⁶ TDD)
 Mechanical life: 50 x 10⁶ ops (10x10⁶ TDD)
 Operating temp: -10°C to +60°C
 CE compatibility: meets EN61010-1 low voltage and EN50081-1/58002-1 emc directives
 Weight: DE 135gms, TDD 160gms, DC 135gms

Modes	Delay On (DE)	Delay Off (TDD)	Delayed Cycling (DC)
Supply			
Output			
T=Set Time	T	T	T1 T2 T1 T2
Ranges	0.5 to 20 secs 5 to 200 secs 1 to 30 mins 2 to 60 mins	0.5 to 20 secs 0.3 to 10 mins	0.5 to 20 secs 5 to 200 secs

Connection Diagram



Dimensions



Standard Items

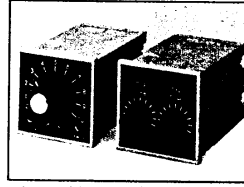
Voltage	Time	Part Number	Part Number
		Delay On	True Delay Off
12Vdc	20 sec	2BDE20SLP12VDC	
12Vdc	200 sec	2BDE200SLP12VDC	
12Vdc	30 min	2BDE30MLP12VDC	
24Vdc	20 sec	2BDE20SLP24VDC	2BTDD20SLP24VDC
24Vdc	200 sec	2BDE200SLP24VDC	
24Vdc	10 min		2BTDD10MLP24VDC
24Vdc	30 min	2BDE30MLP24VDC	
24Vdc	60 min	2BDE60MLP24VDC	
110Vac	20 sec	2BDE20SLP110VAC	2BTDD20SLP110VAC
110Vac	200 sec	2BDE200SLP110VAC	
110Vac	10 min		2BTDD10MLP110VAC
110Vac	30 min	2BDE30MLP110VAC	
12Vac	60 min	2BDE60MLP110VAC	
230Vac	20 sec	2BDE20SLP230VAC	2BTDD20SLP230VAC
230Vac	200 sec	2BDE200SLP230VAC	
230Vac	10 min		2BTDD10MLP230VAC
230Vac	30 min	2BDE30MLP230VAC	
230Vac	60 min	2BDE60MLP230VAC	

For a suitable panel mounting or DIN rail socket plus clip see page 26

Voltage Time Part Number

110Vac	20 sec	2BDC20SLP20SLP110VAC
110Vac	200 sec	2BDC200SLP200SLP110VAC
230Vac	20 sec	2BDC20SLP20SLP230VAC
230Vac	200 sec	2BDC200SLP200SLP230VAC

FB & T PANEL MOUNT AND PLUG-IN TIMERS



The F series is a range of Analogue Timers which can be panel mounted from their 48 x 48mm front bezel or chassis/DIN rail mounted via a plug-in socket. A wide range of supply voltages, timing and operating modes are available to order.

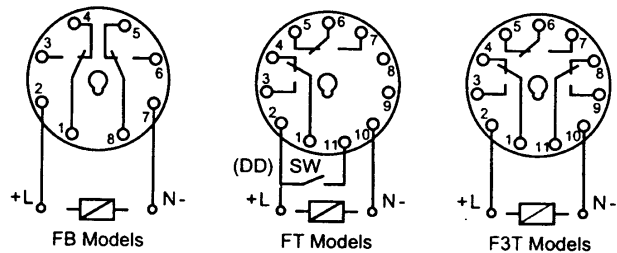
- 12 to 240 Vac/dc supply options
- Up to 3 DPCO, 5 Amp Output contacts
- Time ranges from 1 sec to 60 hours
- 8/11 pin Plug-in or Panel mounting
- CE EMC and Low Voltage compatible

Specification

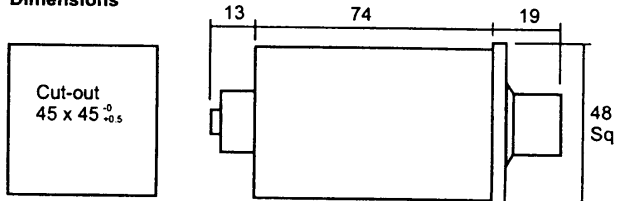
Supply voltage: 12, 24, 48, 100 Vdc, 24, 50, 110, 230Vac @ 50/60 Hz
 Min. Supply time: (Tm+50)msecs where Tm=max Scale Range (TDD only)
 Power drain: 2W or 4VA (20VA for TDD)
 Supply limits: +/- 15% of supply voltage
 Timing Modes: DE, INT, DD, TDD, DC or IC See chart below
 Timing Ranges: 1, 2, 5, 10, 30, 60 secs, 2, 5, 10, 30, 60 mins or hours (upto 30 mins for DD and TDD).
 Scale range: 5% to 100% of max time setting
 Scale accuracy: +/- 5% of Timing Range
 Repeat accuracy: 1% of scale value (20msec min.)
 Reset time: 100msec (200msec for DC)
 Output Config: 2 or 3 DPCO contacts (3 only on DE & INT models)
 Output rating: 10A/240Vac or 30Vdc (5A TDD and 3T)
 Electrical life: 5x10⁵ ops at rated load (2 x 10⁶ TDD)
 Mechanical life: 50x10⁶ ops (10 x 10⁶ TDD)
 Operating temp: -10°C to +60°C
 CE compatibility: meets EN61010-1 low voltage and EN50081-1/58002-1 emc directives
 Weight: All models 130gms (except TDD = 150 gms)

Modes	Delay On (DE)	True Delay Off (TDD)	Delayed Cycling (DC)
Supply			
Output			
T=Set Time	T	T	T1 T2 T1 T2
Modes	Interval (INT)	Delay Off (DD)	Immediate Cycling (IC)
Supply			
Output			
Switch			
	T	T	T1 T2 T1 T2

Connection Diagrams



Dimensions



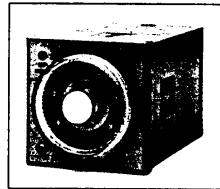
ANALOGUE TIMERS

Standard Items

Mode	Voltage	Time	Base	Part Number	
Interval	110Vac	10sec	2P, 8-pin	FBINT10SLP110VAC	
		10sec	3P, 11-pin	F3TINT10SLP110VAC	
		60min	2P, 8-pin	FBINT60MLP230VAC	
Delay On	24Vdc	10sec	3P, 11-pin	F3TINT10SLP230VAC	
		10sec	2P, 8-pin	FBDE10SLP24VDC	
		60sec	2P, 8-pin	FBDE60SLP24VDC	
Delay On	100Vdc	5min	2P, 8-pin	FBDE5MLP24VDC	
		30sec	2P, 8-pin	FBDE30SLP100VDC	
		5min	2P, 8-pin	FBDE5MLP100VDC	
		30sec	2P, 11-pin	FTDE30SLP100VDC	
		60sec	3P, 11-pin	F3TDE60SLP100VDC	
		30sec	2P, 8-pin	FBDE30SLP24VAC	
	24Vac	110Vac	10sec	2P, 8-pin	FBDE10SLP110VAC
			30sec	2P, 8-pin	FBDE30SLP110VAC
			60sec	2P, 8-pin	FBDE60SLP110VAC
			5min	2P, 8-pin	FBDE5MLP110VAC
			30min	2P, 8-pin	FBDE30MLP110VAC
			10sec	2P, 11-pin	FTDE10SLP110VAC
Delay On	230Vac	30sec	2P, 11-pin	FTDE30SLP110VAC	
		5min	2P, 11-pin	FTDE5MLP110VAC	
		10sec	3P, 11-pin	F3TDE10SLP110VAC	
		10sec	2P, 8-pin	FBDE10SLP230VAC	
		30sec	2P, 8-pin	FBDE30SLP230VAC	
		60sec	2P, 8-pin	FBDE60SLP230VAC	
	Cyclic	110Vac	5min	2P, 8-pin	FBDE5MLP230VAC
			30sec	2P, 8-pin	FBDC30SLP30SLP110VAC
			5min	2P, 8-pin	FBDC5MLP5MLP230VAC
			30sec	2P, 11-pin	FTDDP30SLP110VAC
			10min	2P, 11-pin	FTDDP10MLP110VAC
			30sec	2P, 11-pin	FTDDP30SLP230VAC
Delay Off	110Vac	10min	2P, 11-pin	FTDDP10MLP230VAC	
		30sec	2P, 8-pin	FBTDD30SLP110VAC	
		10min	2P, 8-pin	FBDD10MLP110VAC	
		30sec	2P, 8-pin	FBDD30SLP230VAC	
		10min	2P, 8-pin	FBDD10MLP230VAC	
		10min	2P, 8-pin	FBDD10MLP230VAC	

For a suitable wiring socket see page 26

AT MULTI-RANGE TIMERS

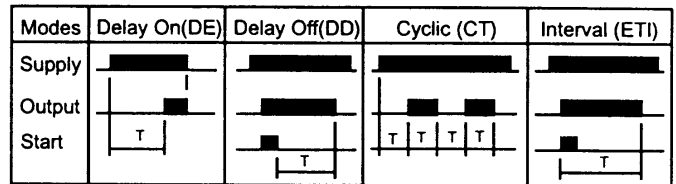


The AT series Timers provide multi-range and multi-function options to maximise functionality in each model. The AT8B offers an instantaneous contact option to simplify momentary push button starting circuits, whilst the AT11D provides external Hold and Reset inputs for wider control applications.

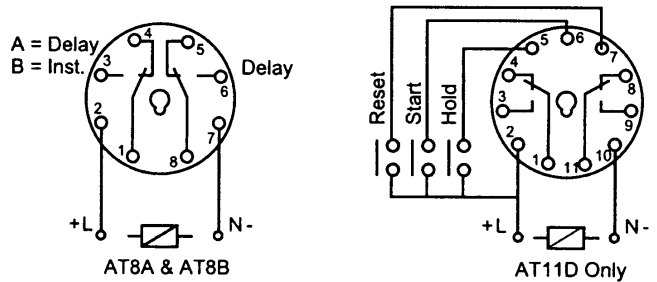
- 16 Time Ranges up to 10 Hours
- 4 Function Modes on AT11D
- 2 Delayed or 1 Instant + 1 Delayed contact
- Hold & Reset Inputs on AT11D

Specification

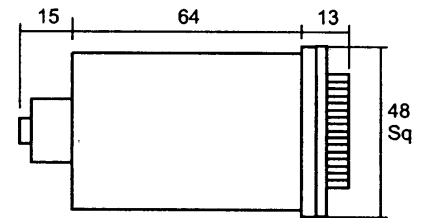
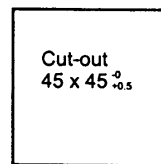
Supply voltage:	24Vac, 110Vac, 220Vac @ 50/60 Hz, 24Vdc
Power drain:	10VA or 2W max.
Supply limits:	+/- 10% of supply voltage
Timing Modes:	DE (AT8); DE, DD, CT, ETI (AT11D)
See chart for explanation	
Timing Ranges:	0.5, 1, 5, 10, 30, 60 Secs, 5, 10, 30, 60 Mins 5, 10, 50, 100 Hrs
Scale range:	5% to 100% of max time setting
Scale accuracy:	+/- 5% of timing range
Repeat accuracy:	+/- 0.3% of scale value (20msec min.)
Reset time:	500msec
Output rating:	3A/250Vac resistive
Electrical life:	1x10 ⁵ ops at rated load (2x10 ⁵ TDD)
Mechanical life:	10x10 ⁶ operations
Operating temp:	-10°C to +55°C
CE compatibility:	meets EN61010-1 low voltage and EN50081-1/58002-1 emc directives UL recognised
Weight:	110 gms



Connection Diagrams



Dimensions

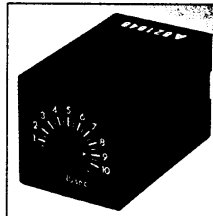


Standard items

Mode	Voltage	Output	Part Number
Delay On	110Vac	2 x Timed CO	AT8A-110VAC
	240Vac	2 x Timed CO	AT8A-240VAC
	110Vac	Timed CO + Inst CO	AT8B-110VAC
	240Vac	Timed CO + Inst CO	AT8B-240VAC
Multi-Function	110Vac	Timed CO + Inst CO	AT11D-110VAC
	240Vac	Timed CO + Inst CO	AT11D-240VAC

For a suitable wiring socket see page 26

L LOW COST TIMERS



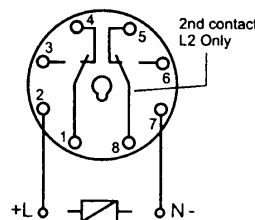
The L Series are low cost analogue Timers operating in a 'Delay-on-Energise' mode only. They offer a range of times as well as 3 standard voltages with either SPCO or DPCO relay outputs.

- 6 Time ranges up to 5 minutes
- SPCO or DPCO relay outputs
- 24Vdc, 110Vac and 230Vac supplies
- Miniature (relay) size

Specification

Supply voltage:	110Vac, 230Vac @ 50/60 Hz, 24Vac/dc
Power drain:	4VA or 2W max.
Supply limits:	+/- 10% of supply voltage
Timing Modes:	Delay On (DE)
Timing Ranges:	2, 3, 10, 30, 60 Sec, 5 Min
Scale range:	5% to 100% of max time setting
Scale accuracy:	+/- 5% of timing range
Repeat accuracy:	+/- 1% of scale value (20msec min.)
Reset time:	100msec
Output rating:	L = 3A/250Vac L2 = 2 x 5A/250Vac resistive
Electrical life:	1x10 ⁵ ops at rated load
Mechanical life:	10x10 ⁶ operations
Operating temp:	-10°C to +50°C
Weight:	90 gms

Connection Diagrams



Dimensions

